

Express Mail Label No. EV 655365775 US
Application No. 10/670,091
Atty. Docket No. 4811-9-CON

AMENDMENTS TO THE SPECIFICATION

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Please amend the paragraph beginning at page 2, line 3, as follows:

To form an article of manufacture with the flocked transfer, a ~~hot-melt~~ or thermosetting adhesive film (in the form of a sheet or cut to shape) is positioned on the substrate to which the transfer is to be applied. The thermosetting film is preferably a polyester or polyurethane film, but can be any thermosetting film. The flock with the release adhesive and release sheet (i.e., the transfer) is then placed on the sheet of permanent adhesive film with the release sheet up, so that the flocking is in contact with the permanent adhesive film. Heat is then applied to the transfer. The heat melts the permanent adhesive film, and secures the flock to the substrate. Because the permanent adhesive film is thermosetting ~~in one embodiment~~, even if it is subsequently subjected to heat, it will not remelt, nor become tacky, and hence, there is no risk of fibers becoming matted down in any of this type of adhesive, which could otherwise ruin the plush pile effect. In addition, it is likely that the use of a thermoset powder could be added to a bond print latex flock adhesive binder, to serve as a method for increasing the adhesion and again reducing the risk of any remelting, or becoming tacky, when the flock transfer is subsequently exposed to heat. It is known that there is a much stronger adhesion with thermosetting materials, because thermoset materials will cross-link with a chemical reaction and thereby adhere the flock fibers to it, which become chemically attached thereto. Through the usage of this invention, the finished flock surface is more plush, soft, because more of the fiber is exposed and extends upwardly out of the adhesive, than with the screen-printed latex, as currently used. Also, this affords better soil release during washing or cleaning because of less fiber/adhesive entanglement occurs with the flock, during application.

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Please amend the paragraph beginning at page 3, line 25, as follows:

A flocked transfer 1 of the present invention is shown in FIG. 2. The transfer 1 of the present invention includes a release sheet 3 to which a conventional release agent [[5]], such as wax, has been applied. The release agent is applied to the sheet in the shape of the pattern of the flocking. Flocking 7 is then applied to the release agent, and hence to the release sheet, to form the transfer. The flocking 7 is applied, for example, in the manner as described in my prior patent, U.S. Pat. No. 4,810,549, which is incorporated herein by reference. Unlike the prior art processes, the transfer 1 of this embodiment is made without the use of a binder adhesive or a hot melt adhesive. As is discussed below, a thermosetting film is used to adhere the transfer to a substrate.

Please amend the paragraph beginning at page 4, line 5, as follows:

An article of manufacture, such as an item of clothing having a transfer 1 applied thereto, a mouse pad, coaster, or other item having a flocked surface is easily produced using the transfer 1. The article of manufacture 11 is produced by positioning a ~~hot-melt or~~ thermosetting permanent adhesive sheet 13 between a substrate 15 and the flocked release sheet. The sheet is, for example, a sheet of thermosetting polyester, available from Bostik, Inc. The sheet can also be made from a thermosetting polyurethane. Any other thermosetting film should also work well. The substrate can be an item of clothing, a rubber pad (for producing a mouse pad or coaster), etc. The sheet can be precut to correspond to the shape of the transfer 1. The transfer 1 is then positioned on the sheet with the flock 5 against the sheet 13. Heat is applied to the transfer through the release sheet to activate the permanent adhesive sheet. The sheet then acts to both bind the flock 5 together and to adhere the flock 5 to the substrate 15. Preferably, to assemble the article, the flocked release sheet, the permanent adhesive sheet (which is preferably the thermosetting film), and the substrate are brought together and passed through a heat-laminating press where the three parts are subject to temperature of about 300°F (about 150°C) and pressure

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(about 40-50 psi) for about 30 seconds. It has been found that a medium-to-firm pressure has been most advantageous in providing for assembly of this type of plush flocked transfer. The pressure and heat will cause the permanent adhesive sheet to adhere to the flock and the substrate. Additionally, the thermosetting film will cross-link or cure, to give a strong attachment of the flock to the substrate.